A Detailed Prompts

Prompt 1: Task Instruction

Your task is to recommend a user's next point-of-interest (POI) from the candidate POIs $\{\mathcal{L}\}$ by analyzing the users' preferences on category, region, and distance.

Prompt 2: Category Preference Probing

Given the user's Category sequence: $\{C_u\}$, what is the user's categorical transition preference? Considering: what are the 'category pairs' the user usually visits consecutively? (format:{category-category,...})
What is the user's categorical temporal preference? Considering: what are the 'categories' the user visits at a certain time (day/ hour)? (format:{time: [categories]})

Prompt 3: Region Preference Probing

Given the user's Region sequence: $\{\mathcal{R}_u\}$, what is the user's regional transition preference? Considering: what are the 'region pairs' the user usually visits consecutively? (format:{region-region,...})
What is the user's regional temporal preference? Considering: what are the 'regions' the user visits at a certain time (day/ hour)? (format:{time: [regions]})

Prompt 4: Distance Preference Probing

Given the user's Distance sequence: $\{\mathcal{D}_u\}$, what is the user's distance temporal preference? Considering: what are the 'distances' the user usually visits at a certain time (day/ hour)? (format: {time: [distances]})

Prompt 5: Category Preference Prediction

The user has visited categories $\{C_u^{cur'}\}$. Now is {day} at {hour}, based on the user's categorical transition preference and categorical temporal preference, predict users' next most likely visiting 'category'. (format:category)

Prompt 6: Category Preference Reflection

The user actually visited category $\{c_{t_{|C|}}\}$.
Based on the actual visited category, what is the new insight you can get for the user's categorical transition preference? Generate the updated categorical transition preference. (format:{category-category,...})
What is the new insight for the user's categorical temporal preference? Generate the updated categorical transition preference. (format:{time: [categories]})

Prompt 7: Region Preference Prediction

The user has visited regions $\{\mathcal{R}_u^{cur'}\}$. Now is {day} at {hour}, based on the user's regional transition preference and regional temporal preference, predict users' next most likely visiting 'region'. (format:region)

Prompt 8: Region Preference Reflection

The user actually visited region $\{r_{t_k}\}$.
Based on the actual visited region, what is the new insight you can get for the user's regional transition preference? Generate the updated regional transition preference. (format:{region-region,...})
What is the new insight for the user's regional temporal preference? Generate the updated regional temporal preference. (format:{time: [regions]})

Prompt 9: Distance Preference Prediction

Given the user's Distance sequence: $\{\mathcal{D}_u\}$, what is the user's distance temporal preference? Considering: what are the 'distances' the user usually visits at a certain time (day/ hour)? (format:{time: [distances]})

Prompt 10: Distance Preference Reflection

The user actually visited distance $\{d_t\}$.
Based on the actual visited distance, what is the new insight for the user's distance temporal preference? Generate the updated distance temporal preference. (format:{time: [distance]})

Prompt 11: Categorical Transition Preference Summarization

The users' geographical neighbors' categorical transition preferences are {preferences}; the users' semantic neighbors' categorical transition preferences are {preferences}; the users' social neighbors' categorical transition preferences are {preferences}. Summarize the neighbors' categorical transition preferences by considering their commonalities (format: {category-category,...}.

Prompt 12: Categorical Temporal Preference Summarization

The users' geographical neighbors' categorical temporal preferences are {preferences}; the users' semantic neighbors' categorical temporal preferences are {preferences}; the users' social neighbors' categorical categorical temporal are {preferences}. Summarize the neighbors' categorical temporal by considering their commonalities (format: {time:[categories]}.

Prompt 13: Regional Transition Preference Summarization

The users' geographical neighbors' regional transition preferences are {preferences}; the users' semantic neighbors' regional transition preferences are {preferences}; the users' social neighbors' regional transition preferences are {preferences}. Summarize the neighbors' regional transition preferences by considering their commonalities (format: {region-region,...}.

Prompt 14: Regional Temporal Preference Summarization

The users' geographical neighbors' regional temporal preferences are {preferences}; the users' semantic neighbors' regional temporal preferences are {preferences}; the users' social neighbors' regional temporal preferences are {preferences}. Summarize the neighbors' regional temporal preferences by considering their commonalities (format: {time:[regions]}.

Prompt 15: Distance Temporal Preference Summarization

The users' geographical neighbors' distance temporal preferences are {preferences}; the users' semantic neighbors' distance temporal preferences are {preferences}; the users' social neighbors' distance temporal preferences are {preferences}. Summarize the neighbors' distance temporal preferences by considering their commonalities (format: {time:[distances]}.

Prompt 16: Next Category Prediction

Now is {day} at {hour}, based on the users' current category sequence $\{C_u^{cur}\}$, his own categorical transition preference and categorical temporal preference, and his neighbors' categorical transition preference and categorical temporal preference, predict the user's next most likely visiting 'category'. (format: category)

Prompt 17: Next Region Prediction

Now is {day} at {hour}, based on the users' current region sequence $\{\mathcal{R}_u^{cur}\}$, his own regional transition preference and regional temporal preference, and his neighbors' regional transition preference and regional temporal preference, predict the user's next most likely visiting 'region'. (format: region)

Prompt 18: Next Distance Prediction

Now is {day} at {hour}, based on the users' current distance sequence $\{\mathcal{D}_u^{cur}\}$, his own distance temporal preference, and his neighbors' distance temporal preference, predict the user's next most likely visiting 'distance'. (format: distance)

Prompt 19: Next POI Recommendation

Given users' current check-in sequence $\{\mathcal{L}_u^{cur}\}$, recommend 10 POIs from $\{\mathcal{L}\}$ considering his next likely visiting category, region, and distance. State the reason for each recommendation and rank the importance of category, region, and distance preferences. (format: {POI: reason; [importance ranking])